

The *Financial Counseling and Planning* Indexing Project: Establishing a Correlation Between Indexing, Total Citations, and Library Holdings

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The researcher hypothesized that increasing the number of indexing services covering a journal would increase library holdings and total citations for the journal. A sample group of 40 Journal Citation Reports (JCR) journals in the "Business, Finance" category was identified and checked for the number of times indexed in Ulrich's Periodicals Directory, the total citations in the JCR, and the library holdings in Online Computer Library Center's (OCLC) WorldCat. A Pearson correlation matrix was constructed, and the conclusion reached was that increasing the number of indexes for a journal increases library holdings and positively affects citation patterns. A discussion of the ongoing efforts to index Financial Counseling and Planning is provided.

Key Words: indexing and abstracting services, journal indexing and visibility, library holdings, total citations

Introduction

Publishers of both commercial and scholarly association and society journals rely heavily upon indexing and abstracting services to increase the visibility and use of their academic journals. From a publisher or journal editor's perspective, the numerous advantages of submitting a journal for inclusion in a large number of indexing databases appear self-evident. Faculty and students almost exclusively use electronic indexes to conduct literature searches for articles relevant to their academic research. EBSCO Publishing, Cambridge Scientific Abstracts (CSA), Proquest CSA, Thomson Gale, H. W. Wilson, and other major information services providers now lease subject specific and multidisciplinary indexes (e.g., *ABI/INFORM*®, *PsycINFO*, *Academic Search*® Premier, and *EconLit*) to academic libraries in formats that allow their constituents to seamlessly retrieve full text journal content. Increased use by faculty and other researchers will likely affect the number of citations to a publisher's journal, enhancing a journal's reputation and the possibility of attracting submissions by prominent researchers. Increasing a journal's visibility in indexing databases should also result in more requests by researchers for institutional subscriptions for academic libraries. For these reasons, the researcher hypothesized that increasing the number of

indexing services covering a journal will likely benefit publishers by increasing library holdings and total citations for the journal.

The editor of *Financial Counseling and Planning* (FCP), the research journal of the Association for Financial Counseling and Planning Education® (AFCPE®), first approached the author in January 2006 to discuss the possibility of submitting the journal for inclusion in appropriate indexing and abstracting services. The author agreed to identify appropriate indexing resources and to collaborate with the editor on the process of submitting the journal to the indexing services for consideration. Although familiar with indexing services and negotiating with information service providers, the author did not possess previous experience submitting journals for indexing and abstracting. The author also recommended promoting the open access aspect of the journal to further increase use and visibility. The author and editor successfully placed the journal in 10 major indexing and abstracting services over a 12-month period. The collaborative indexing venture is ongoing, with pending submissions for additional indexing services. A description of the indexing project is presented in detail below.

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Literature Review

Notwithstanding the apparent advantages of placing a journal in the major indexing and abstracting services, the literature is relatively silent on the possible correlation between a journal's presence in these databases and total citation rate, journal reputation, article submissions, and library holdings. Citation analyses and other studies predicated upon impact factor as a measure of journal quality have largely dominated the bibliometric research literature (despite serious concerns about the misuse of Eugene Garfield's impact factor¹). A few research articles, however, are germane to the present study. Marusic, Sambunjak, and Marusic (2006) reported an increase in the number of article submissions (and higher rejection rate) after the *Croatian Medical Journal* was indexed in *Pubmed/Medline*, *Science Citation Index*, and other bibliographic databases. An earlier study of the same journal showed an increase in the impact factor after placing the journal in indexing databases (Kovacic & Misak, 2004). In an effort to rank the research productivity of library and information science faculty, Meho and Spurgin (2005) concluded that a comprehensive evaluation of the research literature required searching multiple indexing databases and that limiting a study to two or three subject specific databases resulted in erroneous data. Similarly, Walters and Wilder (2003) evaluated indexing in 12 bibliographic databases for later-life migration literature and determined that multidisciplinary databases outperformed subject specific databases, but researchers needed a high number of both multidisciplinary and subject specific databases to adequately search the literature. The latter two studies illustrated the importance of indexing a journal in a high number of both types of indexing databases to comprehensively meet the information needs of students and faculty. Studies specifically devoted to measuring the direct correlation between times indexed in databases, total citations, and library holdings did not appear in a review of the literature.

Purpose

The purpose of the current paper was to establish a positive correlation between the number of services indexing a journal, the total citations for the indexed journal, and library holdings. A description of the process of submitting *FCP* to various indexing services has also been provided. The author has also included the number of library holdings and will track the number of times cited in the *Web of Science* for *FCP* over time. The author intends to establish a correlation between the placement of *FCP* in major indexing services and total citations and library holdings

for the journal by measuring these indicators over time (a 2- to 3-year period).

Methods

Procedure

The researcher selected a sample of 40 journals from *Journal Citation Reports (JCR) Social Sciences Edition 2005* from the "Business, Finance" category. *JCR* is the standard tool used in bibliometric research and other disciplines to evaluate journals. *JCR* data used in the sample study included the impact factor and total cites. The impact factor is the most widely used and recognized *JCR* measure to evaluate journals and consists of the "average number of times articles from the journal published in the past two years have been cited in the *JCR* year" (Thomson Corporation, 2007). Total cites is also an indicator of a journal's use and reputation and refers to the "total number of citations to the journal in the *JCR* year" (Thomson Corporation, 2007). The *JCR* category most applicable to *FCP* was selected, and all 40 of the journals were used in the sample. The researcher counted the number of indexing services listed for each journal in the 2007 edition of the *Ulrich's Periodicals Directory*, the most authoritative source used by librarians to obtain indexing information. The researcher checked *Online Computer Library Center's (OCLC) WorldCat®* (a worldwide database of library holdings) for library holdings for each journal in the sample group. All electronic and print holdings were counted, although possible title changes for journals were not included in the count.

The number of total cites, the impact factor, the total number of indexing services covering the journal, and library holdings were recorded in a Microsoft® Excel spreadsheet (see Table 1). To test for a positive correlation between the variables, a Pearson correlation coefficient, a statistical index designed to quantify "the linear relationship between a pair of variables" (Everitt, 1998, p. 80), was generated using Excel. A Pearson correlation matrix was constructed listing the results (see Table 2).

Results

The results listed in the Pearson correlation matrix indicated that the number of indexing services covering a journal correlates significantly with the total amount of citations (total cites) for the journal and library holdings. (It should be noted that the Pearson results indicated a positive association between variables, but not necessarily a causal relationship.) Both variables tested in a Pearson correlation must be normally distributed, and variables

Table 1. JCR Sample Records, Total Cites, Impact Factor, Number of Indexing Services, and Library Holdings

Journal title	2005 Total cites	Impact factor	Indexing services	Library holdings
<i>Accounting Organizations and Society</i>	701	0.871	24	551
<i>Accounting Review</i>	1256	1.690	34	1680
<i>Auditing - A Journal of Practice & Theory</i>	176	0.562	7	395
<i>Contemporary Accounting Research</i>	401	0.759	9	494
<i>Financial Analysts Journal</i>	547	0.542	20	1450
<i>Financial Management</i>	471	0.976	24	1602
<i>Finance and Stochastics</i>	397	1.429	14	372
<i>Finance A Uver-Czech Journal of Economics and Finance</i>	36	0.173	6	16
<i>Fiscal Studies</i>	159	0.737	14	258
<i>Forbes</i>	171	0.026	57	5762
<i>Geneva Papers on Risk and Insurance Theory</i>	6	0.200	13	365
<i>Geneva Papers on Risk and Insurance - Issues and Practice</i>	36	0.192	6	305
<i>IMF Staff Papers</i>	456	0.589	32	1708
<i>International Journal of Finance & Economics</i>	112	0.234	7	272
<i>Journal of Accounting & Economics</i>	1413	1.877	18	627
<i>Journal of Accounting Research</i>	1343	1.635	28	1177
<i>Journal of Banking & Finance</i>	1142	0.531	24	678
<i>Journal of Corporate Finance</i>	221	0.883	7	351
<i>Journal of Finance</i>	8235	2.549	34	1876
<i>Journal of Financial Economics</i>	5404	2.385	26	784
<i>Journal of Financial Intermediation</i>	278	1.118	7	425
<i>Journal of Financial Markets</i>	176	0.974	4	281
<i>Journal of Financial and Quantitative Analysis</i>	1027	1.000	26	1250
<i>Journal of Futures Markets</i>	351	0.317	19	609
<i>Journal of Industrial Economics</i>	957	0.551	38	1098
<i>Journal of International Money and Finance</i>	699	0.505	18	545
<i>Journal of Monetary Economics</i>	2670	1.661	24	697
<i>Journal of Money Credit and Banking</i>	1128	0.980	25	1438
<i>Journal of Portfolio Management</i>	331	0.464	15	681
<i>Journal of Real Estate Finance and Economics</i>	345	0.473	14	388
<i>Journal of Risk and Insurance</i>	238	0.328	23	1080
<i>Journal of Risk and Uncertainty</i>	880	2.100	20	437
<i>Mathematical Finance</i>	672	1.345	14	375
<i>National Tax Journal</i>	777	0.840	29	1394
<i>Quantitative Finance</i>	355	0.818	13	170
<i>Real Estate Economics</i>	201	0.451	18	866
<i>Review of Accounting Studies</i>	177	1.514	8	339
<i>Review of Financial Studies</i>	1984	1.893	14	806
<i>World Bank Economic Review</i>	577	1.270	35	540
<i>World Economy</i>	400	0.746	38	560

Table 2. Pearson Correlation Matrix for Number of Indexing Services, Total Cites, Impact Factor, and Library Holdings for *JCR* Sample Records

	Total citations	Impact factor	Library holdings
Times indexed	.55*	.20	.73*
Total citations		.72*	.50*
Impact factor			.18

* $p < .01$.

were tested for normality. The variables showed highly skewed distributions (only the impact factor was found to approximate normal distribution), which required the logarithmic transformation to meet the Pearson requirements. Correlations above .33 listed in the Pearson Correlation matrix were significant at the .05 level, and correlations above .42 were significant at the .01 level. The coefficient for total citations was .55 and the coefficient for library holdings was .73, showing a positive association between the number of indexing services and a journal's total citations and library holdings. The latter correlation was particularly high. The coefficient for the impact factor did not correlate significantly at this level. However, the prevalence of random error in the impact factor (and other problems associated with impact factor) suggest that total cites is actually a better measure than the impact factor for a journal (Bensman, 2007). The results supported the hypothesis that increasing the number of indexing services for a journal also increases visibility in terms of library holdings (and library online catalogs), as well as the journal's citation performance.

Discussion

The Financial Counseling and Planning Indexing Project

The author and the editor met in January 2006 to discuss strategies and appropriate electronic databases for indexing *FCP*. At the time, *FCP*, according to *Ulrich's Periodical Directory*, appeared in only a single indexing service, *Business Education Index*. The author suggested a number of important indexing services for possible submission for the journal. Suggested bibliographic indexes included *ABI/INFORM*®, *Academic Search*® Premier, *Business Source*® Complete, *CabDirect*, *CSA*, *Directory of Open Access Journals (DOAJ)*, *EconLit*, *Education Resources Information Center (ERIC)*, *Infotrac*®, *Ingenta*, *PsychINFO*, *LexisNexis*®, *SocIndex*® with Full Text, and *Web of Science*®. A further strategy consisted of offering

indexing services access to the full text, either directly from the *AFCPE*® Web site or from electronic files sent by the association.

The most current issue and some archived issues of *FCP* were already openly accessible from the association's Web site. The editor contacted the association and made arrangements to place all issues from Volume 1 to the most current issue online. The author felt strongly that the journal should be included in the *DOAJ* to increase visibility and library holdings, because many academic libraries (both in the U.S. and internationally) regularly include *DOAJ* titles in their databases. The *DOAJ*, hosted by Lund University Libraries in Sweden, currently includes 2,597 open access journals. The aim of the *DOAJ* "is to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact" (Lund University Libraries, 2007, para. 1). The *DOAJ* stipulates that journal content must be available for free without a period of embargo (most current issue available without a period of delay). The author and editor completed the online form used to suggest new journal titles for inclusion in the *DOAJ*. A follow-up questionnaire sent by *DOAJ* was subsequently completed, and *FCP* was added to the directory in July 2006. *FCP* is now one of 781 journals indexed in the *DOAJ* at the article level.

Several of the information service providers, including *PsychINFO* and *EconLit*, provided journal submission instructions and downloadable forms from their Web sites (although in some instances instructions were difficult to locate on Web sites and required email queries or phone calls). Downloadable forms were completed and mailed, along with representative print issues of the journal in certain cases, to the information service providers. Typical information submitted to providers included the journal ISSN (International Standard Serial Number), editorial contact information, journal agreements, journal Web site URL, frequency, circulation, services already indexing the title, and evidence of scholarly peer review. *LexisNexis*®, *CSA*, and other providers did not post instructions, and in these cases the author placed phone calls and established direct editorial contacts. A few of the information services providers, for example H. W. Wilson, only required the journal URL to make an evaluation and decision to include the title. Several of the information services providers were able to make indexing decisions within several weeks, whereas other providers took longer or are still in the process of evaluating the journal.

Table 3. Indexing Services Covering *Financial Counseling and Planning*

Indexing database	Vendor (or service provider)
<i>ABI/INFORM</i> ®	ProQuest CSA
<i>Business Source</i> ® <i>Complete</i>	EBSCO Publishing
<i>Business Source</i> ® <i>Corporate</i>	EBSCO Publishing
<i>Directory of Open Access Journals (DOAJ)</i>	Lund University Libraries
<i>EconLit</i> , <i>JEL</i> (on CD), <i>e-JEL</i>	American Economic Association
<i>LexisNexis</i> ®	LexisNexis®
<i>PAIS International</i>	CSA
<i>PsycINFO</i>	American Psychological Association
<i>CSA Social Services Abstracts</i>	CSA
<i>Wilson Business Full Text</i>	H. W. Wilson

At the time of the present study, the researcher and editor have successfully placed the journal in *ABI/INFORM*®, *Business Source*® *Complete*, *Business Source*® *Corporate*, *DOAJ*, *EconLit* (and *Journal of Economic Literature*), *LexisNexis*®, *Public Affairs Information Service (PAIS) International*, *PsychINFO*, *Social Services Abstracts*, and *Wilson Business Full Text* (see Table 3). In addition, updated information has also been sent to *Ulrich's Periodicals Directory*, which now appears in their online directory and will be included in print in November 2007. *Web of Science*® journal selection standards (which are highly selective) allow editors to submit a title for evaluation once every 2 years, and the researcher and editor decided to delay the submission until the journal gained increased visibility in the bibliographic indexes listed above. *Ingenta*, an important document delivery provider, accepts journal content on a publisher pay model, which was not deemed feasible at the present time. *CabDirect* declined to index the journal. *EBSCO* agreed to index the journal in *Business Source*® *Complete* and *Business Source*® *Corporate* but, as part of their marketing strategy, opted not to cover the title in *Academic Search*® *Premier* or *SocIndex*® *with Full Text*. *FCP* is still in the review process for inclusion in *ERIC*, and formal submissions to *Infotrac*® (a large multidisciplinary database) and other information service providers are pending.

Conclusion and Further Steps

The results of the Pearson correlation coefficient from the *JCR* journal sample show that a positive correlation exists between the number of indexing services covering a jour-

nal and the journal's total citations and library holdings. By increasing the number of indexing services for *FCP*, the author and editor hope to increase the total citations, library holdings, and article submissions to the journal. Currently, *WorldCat*® shows that *FCP* is held by 142 libraries worldwide (41 libraries with print holdings and 102 libraries with Internet holdings). Further research is needed to determine if the Internet *WorldCat*® holdings appeared as a result of *DOAJ* inclusion (the author did not check to determine *WorldCat*® holdings prior to this study). Library holdings in *WorldCat*® and citations in *Web of Science*® will be checked periodically over a 2-year period to measure increases in citations and holdings. Use statistics will be obtained from information services providers and the *DOAJ*, and Web site statistics from the *AFCPE*® Web site will also need to be measured and analyzed.

Additional indexing services and search engines (for example, *Google Scholar*) will need to be identified for possible coverage for the title. A special effort will be made to include the journal in one or more multidisciplinary databases. Each information service provider covering the journal should also be checked periodically to insure that indexing is still current and that access to the full text is available (if supported by the service). Interestingly, the journals listed in the *JCR* sample are covered by an average number of 20 indexing services. This average seems like a reasonable goal to set for increasing the number of indexing services for *FCP*.

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Endnote

¹For a discussion on the misuse of the impact factor, see Monarstersky, R. (2005). The number that's devouring science. *The Chronicle of Higher Education*, 52(8), A12-A17.

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